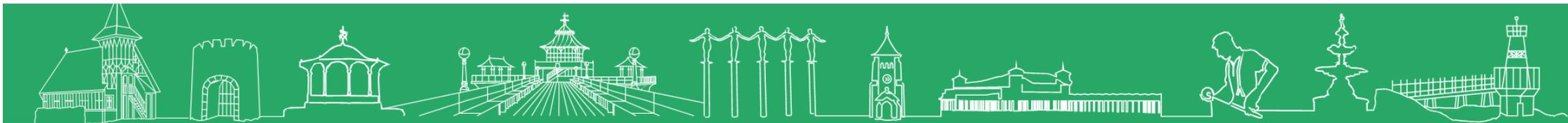
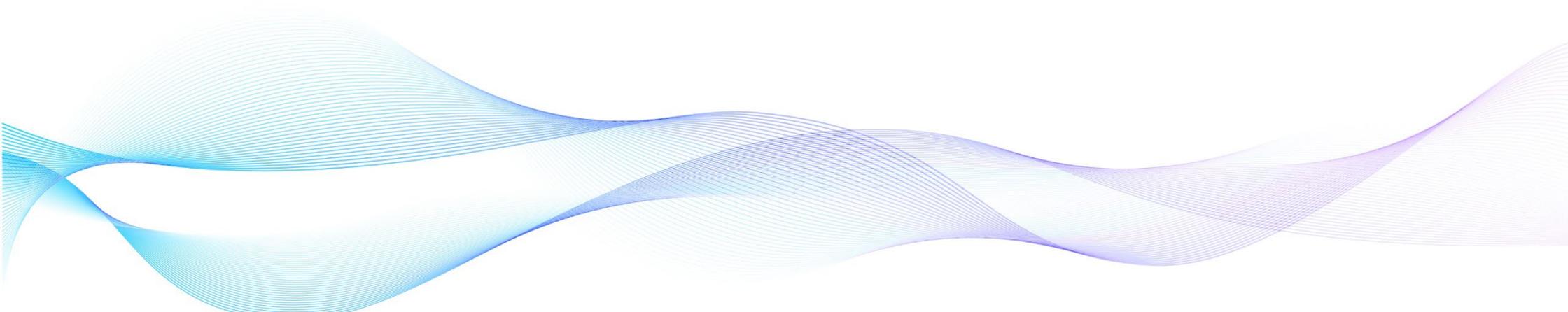


Local Flood Risk Management Strategy for North Somerset

Part F – Small Watercourse Maintenance Good Practice Guide



Contents

| | | |
|------|--|----|
| 1.0 | Introduction..... | 3 |
| 2.0 | Who is this guide for? | 3 |
| 3.0 | Why am I responsible for watercourse maintenance?.. | 3 |
| 4.0 | Why doesn't someone else maintain my watercourse? | 4 |
| 5.0 | Recognising if you have a watercourse on your land ... | 4 |
| 6.0 | Why should I maintain my watercourse?..... | 5 |
| 7.0 | Piped Watercourses (culverts) | 6 |
| 8.0 | Basic steps in maintaining your watercourse..... | 6 |
| 9.0 | Staying safe..... | 10 |
| 10.0 | Looking after wildlife..... | 10 |
| 11.0 | Timing and frequency of maintenance | 12 |
| 12.0 | The right tools for the job | 13 |
| 13.0 | Staying Legal | 13 |

1.0 Introduction



Image 1. A small watercourse is likely to be the landowner's responsibility.

Four-fifths (1,375 km) of North Somerset's watercourses are private. The remainder is managed and maintained by The Environment Agency, The Internal Drainage Boards or North Somerset Council.

Landowners must manage and maintain these to reduce the chances of flooding and maintain healthy watercourses used by wildlife.

Watercourses have different maintenance requirements in different locations; steep watercourses differ from the rhyne on the levels and moors.

Climate change will mean more intense but less frequent rainfall during the summer months and warmer, wetter winters. This will mean North Somerset's watercourses will become more important to store water and take flow away from homes and businesses.

Open water habitat is also being lost through lack of maintenance, so the wildlife living in streams, rhyne, and rivers is declining.

2.0 Who is this guide for?

This guide introduces maintaining your small watercourse and is aimed at landowners and their agents. You are known as a 'riparian owner' if you have a watercourse, ditch, rhyne, stream, river or culvert running alongside or within your property boundary, even if it is dry for most of the time.

This guide is aimed only at small watercourses and ditches, not rivers and large rhyne (see part A for a complete description of the different watercourses).

3.0 Why am I responsible for watercourse maintenance?

As a riparian owner, you have responsibilities concerning the watercourse flowing through or adjacent to your property. These are set out in the Public Health Act 1936, the Land Drainage Acts 1991 & 1994, and the Water Resources Act 1991.

If an area experiences constant flooding, this becomes a nuisance to the community, can restrict access to property, makes everyday living complex, and results in considerable expense and inconvenience for those flooded.

This guide provides some helpful 'best practice' information for maintenance along your watercourse.

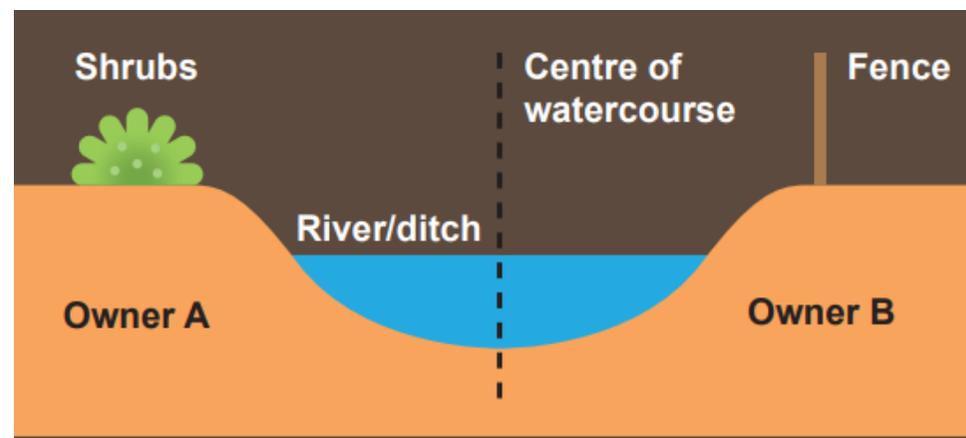
The simple measures in this guidance, such as working from one bank and not using heavy machinery in the channel (when possible), will help you maintain your watercourses to protect the environment and reduce flooding risks.

4.0 Why doesn't someone else maintain my watercourse?

The Environment Agency, The Internal Drainage Boards, and the council all have the power to come onto your land to maintain a watercourse. They do not have any responsibility to do this and will only do so if they think the watercourse is of strategic importance to a broader area and they have funding to do the work.

Even on these watercourses, the riparian owner retains the responsibility for maintenance should one of the authorities no longer do any maintenance. The riparian owner will have the responsibility to do the work.

5.0 Recognising if you have a watercourse on your land



You are a 'riparian owner' if you own land or property with a river, stream, rhyne, ditch or culvert next to or within it. This may be obvious if you are the:

- Landowner for both banks of a watercourse:
If you own the land on both sides of a watercourse, you are fully responsible for maintaining that watercourse.
- Landowner on one bank of a watercourse (or nearest to the bank):
Suppose you are the closest landowner to the top bank of a watercourse. In that case, you are usually responsible for maintaining it to the central line of the

watercourse (even if it does not fall within your property boundary as set out by your Title Deeds).

- Landowner on one side of the bank with a highway on the opposite bank:

In most cases across North Somerset, roadside ditches are the responsibility of the frontager (the adjacent landowner) - not the council or National Highways, which maintains the motorways.

6.0 Why should I maintain my watercourse?

6.1 Wildlife



Image 2. A water vole which you can find in some parts of North Somerset

The biodiversity value of North Somerset's watercourses can be considered a combination of its communities of plants and animals and their connections and interrelationships. Maintaining and improving the connections between all the watercourses is essential not only for wildlife such as fish, newts, and dragonflies but also for those that use the watercourses as a corridor to live and feed, such as water voles, otters, birds, and bats.

If a watercourse is carefully maintained, it can create an excellent habitat for wildlife.

Careful planning to remove obstructive vegetation to the free flow of water allows landowners to help fulfil their riparian responsibilities while enhancing the environment. Vegetation management can also help prevent the watercourses from becoming too shaded, encourage healthy growth of aquatic plants, and help stabilise the riverbanks.

6.2 Flood Risk

Removing silt and debris from the watercourse bed may also be required if it is affecting the natural flow of the watercourse and causing elevated water levels upstream or blocking outlets from surface water drainage. Silt should not be removed from a watercourse if it is not causing any problems.

Suppose a flood has occurred due to a landowner not carrying out their riparian responsibilities to maintain their watercourses properly. In that case, the landowner could be liable for compensating for any damage to other properties.

If a network of watercourses is maintained to an appropriate standard, water levels are also managed, reducing the risk of flooding.

Not all watercourses transport water, as some act purely for storage, but maintenance of the capacity of these storage features is essential as they prevent water flooding elsewhere.

The cost of maintaining a watercourse is minor compared to the costs that can arise from flood damage, not to mention the distress and inconvenience caused if your or your neighbour's property is flooded.

7.0 Piped Watercourses (culverts)



Image 3. A blocked culvert no longer allowing water to flow through it.

Culverted watercourses have been piped, usually under highways, driveways or housing developments. They are generally connected to an open watercourse at some point but may have no visible signs above the ground at all.

You are still responsible for the piped watercourse which passes through your land if:

- You are the owner of the land through which the culvert runs
- You own the land on both sides of a culverted watercourse. You are fully responsible for maintaining that section of the watercourse on your land.

Many culverted watercourses follow the line of the old open watercourse and may run along the boundary of properties. In that case, you are jointly responsible with your neighbour for maintaining that section of the piped or culverted watercourse next to your land.

8.0 Basic steps in maintaining your watercourse

The principles of keeping a well-maintained watercourse are very simple, and the primary responsibility is to ensure 'the proper flow of water' by preventing any obstructions. You should also ensure that it doesn't attract vermin or cause a health hazard.

8.1 For small open watercourses



Image 4. Hand tools are the preferred and most sensitive way to maintain a small watercourse.

Keep the growth of vegetation under control. The aim is to keep as much vegetation as possible while maintaining a water flow.

- When trimming vegetation, it is vital to consider any impact on wildlife. Mowing of banks around ditches should be minimised during the wildlife breeding and spawning season of late February to August inclusive. Even outside of these dates, birds may be nesting, so undertake a visual inspection or, if unsure, seek the professional help of an ecologist.
- When removing vegetation, only remove as much as necessary to maintain the flow of water. This may mean clearing and cutting the vegetation on both banks

in a dry ditch. For a watercourse with a permanent water level, only remove the in-channel vegetation preventing the free flow of water. This may not always be needed if no properties are at risk of flooding and in a location where slowing water flow could be beneficial downstream.

- Always retain a buffer strip next to watercourses that can intercept run-off from the land and provide a corridor for wildlife.
- It is recommended to cut only up to just above the water level on one side of the watercourse, leaving the fringe of the bank uncut and a buffer strip to stop silt from gardens or fields being taken into the watercourse by surface flow routes, thereby maintaining some habitat and enabling a free flow of water in the watercourse
- Some trees may have tree preservation orders (TPOs), so check with the council's tree team if in doubt.
- Cuttings from any clearance work should be removed from the channel to avoid causing blockages downstream. Putting removed material too close to the bank's top can lead to it falling back during flooding.
- Keeping some vegetation can be beneficial for wildlife and prevent erosion. Dense vegetation is the main problem, especially when it can be seen as holding back flow. In fast-flowing watercourses, it may be possible to leave some woody debris in a watercourse to slow the water flow. This must be undertaken with care, or you may increase flood risk. Refer to Part D -

North Somerset Natural Flood Management for more information.

- Remove any physical obstructions to the flow where it obstructs the entire width of the watercourse and an apparent change in water level can be seen; fallen trees and branches should be removed if they will obstruct to flow, but other waste materials such as litter should be removed and, grass cuttings removed and composted so that water can flow freely.
- All non-organic waste should be removed entirely off-site and disposed of appropriately.
- Any green waste resulting from the maintenance of watercourses can be left at a safe distance from the bank for a few days to allow any organisms to move back into the watercourse.
- Ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners.
- Do not store anything alongside the watercourse that may interfere with maintenance, affect the bank's stability, or get washed into the channel.
- If you own livestock, restrict access to your watercourses:
 - Establish a buffer zone of a minimum of 2m from the farming area and watercourse. Ideally, a 6m buffer would benefit biodiversity and reduce runoff and ingress of sediment caused by erosion

- Set fencing (permanent or temporary) back from the watercourse
- Prevent livestock access to the watercourse to reduce bank erosion and sediment input to watercourses.
- Where possible, install drinking troughs, or other drinking systems, away from the watercourse.



Image 5. No protection has been provided to the watercourse, which could lead to pollution or bank erosion.

8.2 Remove excess silt from ditches

- Silt which naturally builds up in ditches, should be removed along the length of the ditch to ensure it flows properly in the right direction.
- If pipes are coming in or out of the ditch, you should remove silt to the same level or below the bottom of the pipe(s).
- Try to maintain the original slope and cross-section of the ditch when desilting. If the slope of the ditch is altered, it can change the flow pattern, cause erosion, or increase flood risk either upstream or downstream.
- If the silt is non-hazardous, you can put it on the bank of the ditch. Depositing silt on top of the ditch banks allows any organisms to move back into the ditch. This will work for rhynes and minor watercourses where the gradient is reasonably flat.
- The silt must be deposited as close as possible to where it was removed from. Either: on the bank of the ditch from where it was taken or on land directly next to it. If you think the material may be hazardous – for instance, if it contains oils or other waste – please see guidance online for disposal methods or contact the Environment Agency for advice.
- Correctly use Fertilisers & Pesticides on adjacent land:
 - Do not exceed soil and crop nutrient needs
 - Store well away from watercourses
 - Do not apply in waterlogged or snow conditions
 - Establish 'no application' strips next to any water

- Follow DEFRA Farming Rules for Water to comply with legislation:
www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution

8.3 For piped watercourses

Piped or 'culverted' watercourses are prone to blockage or collapse and will degrade over time. They naturally silt up and can be difficult to access and clean. Cleaning the inside of a culvert is likely to cost more than maintaining an open watercourse due to the specialist equipment required to access it. They also constrain the flow of water and can increase flood risk and remove wildlife habitat.

- Blockages within or at the pipe entrance can cause flooding problems. These blockages can be reduced by regular inspection and the removal of debris.
- Either you or a qualified drainage company should conduct regular inspections and clear any blockages or silt build-up as soon as they occur. Many drainage companies can inspect and clear culverts.

8.4 For culvert entrances

Culvert entrances and exits often have protective grilles or screens to prevent debris from entering the pipe and causing blockages. These should be inspected and cleaned regularly, especially during the winter or periods of heavy rainfall when debris can accumulate very quickly.

- The design of new grilles and screens must be agreed upon with the council or Environment Agency, and permission must be given before installation, as poorly designed screens can cause an obstruction.
- Health and Safety must be your top priority when carrying out culvert or grille maintenance. You should never enter any culvert without seeking advice.

9.0 Staying safe

When undertaking works within or adjacent to a watercourse, landowners must assess their works to ensure they can be carried out without putting themselves or others at risk. Due to the range of risks posed by open and culverted watercourses, landowners should assess this on a case-by-case basis.

It would be best if you considered the risks posed when working:

- in deep silt or mud
- on slippery banks near water
- in/near deep or fast-flowing water
- near roads
- with plant or machinery
- around culverts and enclosed spaces
- cutting down or working near trees
- on your own

If in doubt, you should always seek advice. It would be best if you considered these tips to help protect your health:

- Wear protective clothing such as gloves
- Cover any open wounds, such as cuts and scratches, with waterproof plasters
- Carefully clean any cuts or scratches obtained during the work near water
- Wash thoroughly and as soon as possible if you have entered the water
- See a doctor if you feel unwell after working near water.

10.0 Looking after wildlife

Watercourses can be vital habitats and may contain important flora and fauna protected or invasive species controlled under the Wildlife and Countryside Act 1981.

10.1 Protected Species

Protected species include native crayfish, water voles, great crested newts, nesting birds and bats. If you think the area you are considering clearing may contain any protected species, please seek further advice before proceeding. Contact The Environment Records Centre for the West of England to find out if protected species have been recorded on or near your land or consult an ecologist.

Various methods for reducing the impact of maintenance works on the environment are suggested in the following two sections below, such as using hand tools to clear obstructions to water flow rather than completely removing a watercourse's vegetation using machinery.

Also, through careful maintenance planning, alternate stretches of a watercourse can be worked on each year to ensure there is always a healthy vegetated area enabling wildlife disturbed by maintenance to migrate. However, it must be remembered that there must always be a clear, free water flow.

If you own a more significant watercourse, maintain multiple watercourses or are likely to be using large machinery to clean the watercourse, it is recommended that you consult the council or Environment Agency and use the guidance document listed below:

The Drainage Channel Biodiversity Manual

Natural England and the Association of Drainage Authorities

<https://www.ada.org.uk/knowledge/environment/>

Many farmers participate in schemes that set clear rules for maintaining watercourses. If these are not adhered to, landowners risk breaking the rules of such agreements and may be penalised.

Contact Natural England to determine if you need permission to work on any watercourse on or near a designated nature conservation site or within a European or nationally protected site. Examples of these in North Somerset are listed below, but there may be others:

National Nature Reserves

- Gordano Valley

- Ramsar
- Severn Estuary

Site of Special Scientific Interest (SSSI)

- Avon Gorge
- Biddle Street, Yatton
- Blagdon Lake
- Bourne
- Gordano Valley
- Kenn Church, Ken Pier, Yew Tree Farm
- Max Bog
- Puxton Moor
- Severn Estuary
- Tickenham, Nailsea and Kenn Moors
- Uphill Cliff
- Yanel Bog

Special Areas of Conservation

- Avon Gorge Woodlands
- Mendip Limestone Grasslands
- Severn Estuary

Special Protection Areas

- Severn Estuary

10.2 Invasive species

Some vegetation and animal species are non-native and considered invasive. Invasive non-native plants are species that have been brought into the UK and can spread, causing damage to the environment, the economy, our health, and the way we live. North Somerset does have areas where invasive species can be found. If you have invasive plants or harmful weeds on your premises, you are responsible for preventing them from spreading into the wild or causing a nuisance. You must not plant or otherwise cause to grow in the wild any plant listed on schedule 9 of the Wildlife and Countryside Act 1981.

Those frequently found in and alongside watercourses include:

- Floating Pennywort
- Australian swamp stonecrop or New Zealand pygmyweed
- Himalayan Balsam
- Japanese Knotweed
- Giant Hogweed

Follow the "[Check, Clean, Dry](#)" approach to avoid spreading. More information on the identification of invasive species and their management can be found on the GB non-native species secretariat website:

www.nonnativespecies.org

11.0 Timing and frequency of maintenance

Developing a programme that determines how often you will carry out maintenance work is good practice for all watercourses and ditches.

Most watercourses and ditches require annual maintenance to some degree. The best time to undertake work is mid-autumn to prepare for increased winter flows.

Ensure that you undertake most of your clearance works after the vegetation has begun to die back in late September/October.

At this time of year, there is also less likely to be wildlife nesting or breeding in or near watercourses.

You should carry out the works when the water level is at its lowest, i.e., with little rainfall.

Plan your maintenance to ensure that habitat stretches are left intact, for example, by trimming alternate banks or lengths of watercourse each year. This ensures that there is always a healthily vegetated area enabling wildlife disturbed by maintenance to move without being forced to leave the ditches.

If protected species have been recorded in your watercourses, you must ensure their habitats are not adversely affected.

Trash/weed screens and grilles should be checked regularly all year round, especially at times of anticipated high flow.

Debris in watercourses should be removed as soon as it builds up.

In culverted watercourses, your program should include an inspection of the culvert for blockages or signs of collapse. If such problems are identified before a total obstruction to the watercourse occurs, it reduces the likelihood of flooding incidents.

12.0 The right tools for the job

This depends on the scale of your watercourse and the extent of work required.

For smaller landowners, maintenance of ditches and watercourses is generally best achieved using hand tools, such as saws, spades and shovels, as this is less destructive to habitats, vegetation and the bed of the watercourse.

It is far better to undertake minor works more regularly that clear obstructions to flow than remove all vegetation and silt from the bed and banks of a watercourse in one go. Regular, minor works will leave healthy vegetation along the bed and watercourse banks. This is important to the water quality and wildlife in the watercourse. Of course, if the watercourse has not been maintained for a while, there may be no option but to undertake significant work.

Machinery can clear large stretches of open watercourse quickly. If using such machinery, the sensitivity of the watercourse must be considered, and maintenance should be planned to ensure stretches of habitat are left intact

(potentially by maintaining alternate banks or lengths of a watercourse each year).

For culverted watercourses, specialist tools may be needed to jet clean or rod the culvert to clear blockages or conduct inspections using camera surveys.

Many landowners will appoint drainage companies/contractors to maintain culverts or open watercourses. It is recommended that landowners who choose to do this always obtain a range of quotes to achieve the best value.

13.0 Staying Legal

13.1 Waste management

Sometimes, ditch spoil or removed invasive species can be categorised as hazardous waste. Environment Agency licenses or exemptions may be required, so if in doubt, please check with your relevant Environment Agency office before progressing or look at www.gov.uk/waste-exemptions-disposingof-waste

When carrying out watercourse and ditches maintenance, you must ensure that your work is legal. As this guidance sets out, general maintenance is unlikely to break the law; however, some activities require permission or consent. Remember, any work undertaken without consent could result in enforcement action.

13.2 Safety

Personal and volunteer safety is crucial. Potential risks must be assessed before work begins.

When undertaking works within or adjacent to a watercourse, landowners must assess their works to ensure they can be undertaken without putting themselves or others at risk. Due to the range of risks posed by both open and culverted watercourses, landowners should assess this on a case-by-case basis and writing a simple risk assessment can often help keep yourself safe.

13.3 Altering the watercourse

Suppose you wish to alter the route, shape, or capacity of the watercourse (whether open or piped) to change the flow, or you wish to build near a watercourse. In that case, you will likely require permission from the regulating body and the relevant landowners.

For works on main rivers, you must submit your plans to the Environment Agency and apply for flood permits if you want to:

Carry out work on, over, under or near a main river, or flood defence

Make changes to any structure that helps control floods.

See www.gov.uk/flood-defence-consent-england-wales for consent information and to determine if your watercourse is a main river.

For works on, over, under or near non-main rivers (ordinary watercourses), contact the council via xxx

13.4 Countryside stewardship

Landowners covered by countryside stewardship schemes must ensure that any maintenance works align with their agreements. Suppose protected species have been recorded in your watercourse. In that case, you must also ensure their habitats are not destroyed, bearing in mind that you must also ensure the free flow of water in the watercourse you are responsible for.

13.5 Tree protection

You must check with your local planning authority to ensure no tree preservation orders (TPOs) on the trees you plan to work on. For large-scale works, you may need a Forestry Commission felling licence - <https://www.gov.uk/guidance/tree-felling-licence-when-you-need-to-apply>

13.6 Private property

Get permission from the landowner(s) before going onto private property.

13.7 Preventing problems downstream

While increasing channel capacity and improving flow can lead to land upstream draining faster, it can cause flooding downstream. Increased flows can also lead to bank erosion and more silt entering the watercourse, which is why consent for these works is often required.

When undertaking maintenance works to watercourses, landowners should ensure that any vegetation, debris or silt removed from the watercourse does not end up back in the flow of the watercourse. Care should also be taken to ensure that any disturbed debris does not end up flowing downstream and causing problems for other landowners.

13.8 Wildlife

As previously mentioned, some species, including all nesting birds, have strict protection under the law. If you doubt the presence of protected species, please seek advice before carrying out any work.

You're breaking the law if you:

- capture, kill, disturb or injure a European protected species (on purpose or by not taking enough care)
- damage or destroy a breeding or resting place (even accidentally)
- obstruct access to their resting or sheltering places (on purpose or by not taking enough care)

Disturbing a protected species includes any planned activity that affects:

- a group's ability to survive, breed or raise their young
- the species' numbers or range in the local area

If you're found guilty of an offence, you could get an unlimited fine and up to 6 months in prison.